

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for the selective oxidation of at least one carbohydrate, a carbohydrate mixture or a composition having a content thereof, where an aqueous solution of the carbohydrate, of the mixture or of the composition is reacted in the presence of a gold catalyst comprising nanodispersed gold particles having a diameter of less than 20 nm on a metal oxide support, and of oxygen, wherein the ratio between the amount of carbohydrates, or of the carbohydrate mixture, to be oxidized and the amount of gold present on the support is more than 1000, where an aldehyde group on the C1 carbon atom of the carbohydrate(s) is selectively oxidized to a carboxyl group, or an aldehyde group is introduced on the C1 carbon atom and selectively oxidized to a carboxyl group.
2. (Original) The method as claimed in claim 1, where the metal oxide support of the gold catalyst is a TiO₂ support.
3. (Previously Presented) The method as claimed in claim 2, where the TiO₂-supported gold catalyst comprises about 0.1% to 5% gold.
4. (Original) The method as claimed in claim 1, where the metal oxide support of the gold catalyst is an Al₂O₃ support.
5. (Previously Presented) The method as claimed in claim 4, where the Al₂O₃-supported gold catalyst comprises about 0.1% to 5% gold.
6. (Previously Presented) The method as claimed in claim 1, where the oxidation is carried out at a pH of from 7 to 11.
7. (Previously Presented) The method as claimed in claim 1, where the oxidation is carried out at a temperature of from 20 °C to 140 °C.

8. (Previously Presented) The method as claimed in claim 1, where the oxidation is carried out under a pressure of from 1 bar to 25 bar.

9. (Previously Presented) The method as claimed in claim 1, where at least one of oxygen and air is bubbled through the aqueous solution of the carbohydrate, of the mixture or of the composition during the oxidation.

Claim 10 (Canceled).

11. (Previously Presented) The method as claimed in claim 1, wherein the carbohydrate to be oxidized is an aldose having an aldehyde group on the C1 carbon atom.

12. (Previously Presented) The method as claimed in claim 1, wherein the carbohydrate to be oxidized is in the 2-ketose form which is initially converted into the oxidizable tautomeric aldose form.

13. (Previously Presented) The method as claimed in claim 11, where the carbohydrate to be oxidized is a monosaccharide, an oligosaccharide, a mixture thereof or a composition having a content thereof.

14. (Withdrawn) The method as claimed in claim 11, where the monosaccharide to be oxidized is glucose, galactose, mannose, xylose or ribose.

15. (Withdrawn) The method as claimed in claim 14, where gluconic acid is obtained as oxidation product in the oxidation of glucose.

16. (Original) The method as claimed in claim 13, where the oligosaccharide to be oxidized is a disaccharide.

17. (Previously Presented) The method as claimed in claim 16, where the disaccharide is a disaccharide aldose.

18. (Original) The method as claimed in claim 17, where maltobionic acid is obtained as oxidation product in the oxidation of maltose.
19. (Withdrawn) The method as claimed in claim 17, where lactobionic acid is obtained as oxidation product in the oxidation of lactose.
20. (Withdrawn) The method as claimed in claim 16, where the disaccharide is a disaccharide 2-ketose.
21. (Original) The method as claimed in claim 13, where the carbohydrate to be oxidized is maltodextrin.
22. (Original) The method as claimed in claim 13, where the carbohydrate to be oxidized is a starch syrup.
23. (Currently Amended) A method for the selective oxidation of at least one oligosaccharide, a mixture thereof or a composition having a content thereof, where an aqueous solution of the oligosaccharide, of the mixture or of the composition is reacted in the presence of a gold catalyst comprising nanodispersed gold particles having a diameter of less than 20 nm on a metal oxide support, and of oxygen, wherein the ratio between the amount of oligosaccharide, or of the oligosaccharide mixture, to be oxidized and the amount of gold present on the support is more than 1000, where an aldehyde group on the C1 carbon atom of the carbohydrate(s) is selectively oxidized to a carboxyl group, or an aldehyde group is introduced on the C1 carbon atom and selectively oxidized to a carboxyl group.
24. (Original) The method as claimed in claim 23, where the support of the gold catalyst employed is a TiO₂ support.
25. (Previously Presented) The method as claimed in claim 24, where the TiO₂-supported gold catalyst comprises about 0.1% to 5% gold.

26. (Original) The method as claimed in claim 23, where the support of the gold catalyst employed is an Al₂O₃ support.
27. (Previously Presented) The method as claimed in claim 26, where the Al₂O₃-supported gold catalyst comprises about 0.1% to 5% gold.
28. (Original) The method as claimed in claim 23, where the support of the gold catalyst employed is a carbon support.
29. (Previously Presented) The method as claimed in claim 28, where the carbon-supported gold catalyst comprises about 0.1% to 5% gold.
30. (Previously Presented) The method as claimed in claim 23, where the oxidation is carried out at a pH of from 7 to 11.
31. (Previously Presented) The method as claimed in claim 23, where the oxidation is carried out at a temperature of from 20° C to 140° C.
32. (Previously Presented) The method as claimed in claim 23, where the oxidation is carried out under a pressure of from 1 bar to 25 bar.
33. (Previously Presented) The method as claimed in claim 23, where at least one of oxygen and air is bubbled through the aqueous solution of the oligosaccharide, of the mixture or of the composition during the oxidation.
- Claim 34 (Canceled).
35. (Previously Presented) The method as claimed in claim 23, where the oligosaccharide to be oxidized is an aldose having an aldehyde group on the C1 carbon atom.

36. (Original) The method as claimed in claim 35, where the oligosaccharide to be oxidized is a disaccharide aldose.

37. (Original) The method as claimed in claim 36, where the disaccharide aldose is maltose, lactose, cellobiose or isomaltose.

38. (Original) The method as claimed in claim 37, where maltobionic acid is obtained as oxidation product in the oxidation of maltose.

39. (Withdrawn) The method as claimed in claim 37, where lactobionic acid is obtained as oxidation product in the oxidation of lactose.

40. (Withdrawn) The method as claimed in claim 23, where the oligosaccharide to be oxidized is in the 2-ketose form which is converted into the oxidizable tautomeric aldose form before the oxidation.

41. (Withdrawn) The method as claimed in claim 40, where the oligosaccharide to be oxidized is a disaccharide 2-ketose.

42. (Withdrawn) The method as claimed in claim 41, where the disaccharide ketose is palatinose.

43. (Previously Presented) The method as claimed in claim 23, where the oligosaccharide mixture to be oxidized is maltodextrin.

44. (Previously Presented) The method as claimed in claim 23, where the composition to be oxidized is a starch syrup.

45. (Withdrawn) An oxidation product obtainable by selective oxidation of maltose by use of a gold catalyst comprising nanodispersed gold particles on a metal oxide support by a method wherein an aqueous solution of the maltose is reacted in the presence of the gold catalyst, and of

oxygen, where an aldehyde group on the C1 carbon atom of the maltose is selectively oxidized to a carboxyl group, or an aldehyde group is introduced on the C1 carbon atom and selectively oxidized to a carboxyl group, or by use of a gold catalyst comprising nanodispersed gold particles on a support by the method as claimed in claim 23, where the oxidation product comprises more than 95% maltobionic acid.

46. (Withdrawn) An oxidation product obtainable by selective oxidation of lactose by use of a gold catalyst comprising nanodispersed gold particles on a metal oxide support by a method wherein an aqueous solution of the lactose is reacted in the presence of the gold catalyst, and of oxygen, wherein an aldehyde group on the C1 carbon of the lactose is selectively oxidized to a carboxyl group, or an aldehyde group is introduced on the C1 carbon atom and selectively oxidized to a carboxyl group, or by use of a gold catalyst comprising nanodispersed gold particles on a support by a method as claimed in claim 23, where the oxidation product comprises more than 95% lactobionic acid.

Claims 47-72 (Canceled).

73. (Previously Presented) The method as claimed in claim 3, wherein the TiO₂-supported gold catalyst comprises about 0.5% to 1% gold.

74. (Previously Presented) The method as claimed in claim 5, wherein the Al₂O₃-supported gold catalyst comprises about 0.5% to 1% gold.

75. (Previously Presented) The method as claimed in claim 17, wherein the disaccharide is selected from the group consisting of maltose, lactose, cellobiose and isomaltose.

76. (Withdrawn) The method as claimed in claim 20, wherein the disaccharide is palatinose.

77. (Previously Presented) The method as claimed in claim 25, wherein the TiO₂-supported gold catalyst comprises about 0.5% to 1% gold.

78. (Previously presented) The method as claimed in claim 27, wherein the Al₂O₃-supported gold catalyst comprises about 0.5% to 1% gold.

79. (Previously Presented) The method as claimed in claim 29, wherein the carbon-supported gold catalyst comprises about 0.5% to 1% gold.

80. (Previously Presented) The method as claimed in claim 7, wherein the oxidation is carried out at a temperature of from 40°C to 90°C

81. (Previously Presented) The method as claimed in claim 31, wherein the oxidation is carried out at a temperature of from 40° to 90°C.